

REMARKS

Status of the Claims

Claims 12-18 and 29-34 remain pending in the present application, Claims 1-11 and 19-28 having been canceled as directed to non-elected claims in response to a restriction requirement. Claims 15, 16, 32, and 33 have been amended.

Restriction/Confirmation of Election

The Examiner previously issued a telephone restriction, indicating that the claims are drawn to two sub-combinations disclosed as usable together in a single combination. Specifically, he noted that Claims 1-11 and 19-28 (Group I) are drawn to a method and system for compressing files by determining a plurality of compressed sizes and compressing the files, as classified in Class 707, subclass 101; and Claims 12-18 and 29-34 (Group II), which are drawn to a method and system for selecting a quality level when compressing each of a set of image files by determining a quality level for compressing, classified in Class 382, subclass 250. In response, applicants elected the claims in Group II, i.e., Claims 12-18 and 29-34, with traverse. Applicants hereby confirm that election and have canceled non-elected Claims 1-11 and 19-28, subject to applicants' right to file a divisional application directed to the non-elected claims during the pendency of the present application. No change in inventorship is required as a result of the cancellation of Claims 1-11 and 19-28.

Claim Objections

The Examiner has objected to Claims 15 and 32 because Claim 15 improperly references Claim 11, and Claim 32 improperly references Claim 27. Claim 15 has now been amended to properly reference Claim 12 and Claim 32 has now been amended to properly reference Claim 29. Accordingly, this objection should be withdrawn.

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1 Claims Rejected Under 35 U.S.C. § 112

2 The Examiner has rejected claims 12 and 29 under 35 U.S.C. § 112 as failing to comply with  
3 the written description requirement. Specifically, the Examiner asserts that in claims 12 and 29, the  
4 step of identifying image files of the set that will be compressed with the predefined minimum  
5 quality level was not described in specification and that these claims thus contain subject matter that  
6 was not described in the specification in such a way as to reasonably convey to one skilled in the  
7 relevant art that the inventors, at the time the application was filed, had possession of the claimed  
8 invention.

9 The Examiner is directed to the part of the specification that describes FIGURE 4 (see  
10 applicants' specification, page 15, line 7 – page 17, line 12), as a detailed flowchart showing the steps  
11 used to identify the image files that will be compressed with a minimum quality level. For example,  
12 this section describes how “A decision step 136 then determines if a variable *image.compression*  
13 *level* for the current image file being evaluated is “unknown,” and if so, proceeds to a decision  
14 step 138, which determines if the compressed file size of the current image when compressed at the  
15 minimum quality level (a variable *image.minsize*) is greater than or equal to the product of the *weight*  
16 of the current image and the *factor* variable. If so, the current image is identified as being one that  
17 should be compressed to the predefined minimum quality level, i.e., the variable  
18 *image.compressionlevel* is set equal to *minlevel*” (see applicants' specification, page 15, line 27 –  
19 page 16, line 5). Accordingly, this rejection should be withdrawn, since the specification does indeed  
20 provide enabling support for these claims.

21 The Examiner has also rejected Claims 16 and 33 under 35 U.S.C. §112 second paragraph as  
22 being indefinite for failing to particularly point out and distinctly claim the subject matter which  
23 applicant regards as the invention. The Examiner notes that as in Claim 16 and 33, preceding step (d)  
24 are three steps (a), (b) and (c). However, step (d) recites repeating the preceding two steps with  
25 successive new quality levels. Thus, the undefined two steps for repeating make the claim indefinite.  
26 Accordingly, step (d) of Claim 16 has been amended to recite “repeating step (b) and step (c) of this  
27 claim with ...” Likewise, Claim 33 has been amended to recite “repeating step (b) and step (c) of this  
28 claim with...” and the rejection should be withdrawn.

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1 Claims Rejected Under 35 U.S.C. § 103(a)

2 The Examiner has rejected Claims 12-13, 15-18, 29-30, and 32-34 under 35 U.S.C. § 103(a)  
3 as being unpatentable over U.S. Patent No. 6,195,462 (Bryniarski et al., which is hereinafter referred  
4 to as "Bryniarski '462") in view of U.S. Patent No. 5, 974,182 (Bryniarski et al., hereinafter referred  
5 to as "Bryniarski '182"). The Examiner asserts that it would have been obvious for one of ordinary  
6 skill in the art at the time the invention was made to modify the Bryniarski '462 technique by  
7 including the frequency image content for determining the scaling factor as taught by Bryniarski '182  
8 in order to compress a collection of images with a desired frequency image content. Applicants  
9 respectfully disagree for the reasons discussed below.

10 In the interest of reducing the complexity of the issues for the Examiner to consider in this  
11 response, the following discussion focuses on independent Claims 12 and 29. The patentability of  
12 each remaining dependent claim is not necessarily separately addressed in detail. However,  
13 applicants' decision not to discuss the differences between the cited art and each dependent claim  
14 should not be considered as an admission that applicants concur with the Examiner's conclusion  
15 that these dependent claims are not patentable over the disclosure in the cited references.  
16 Similarly, applicants' decision not to discuss differences between the prior art and every claim  
17 element, or every comment made by the Examiner, should not be considered as an admission that  
18 applicants concur with the Examiner's interpretation and assertions regarding those claims. Indeed,  
19 applicants believe that all of the dependent claims patentably distinguish over the references cited.  
20 Moreover, a specific traverse of the rejection of each dependent claim is not required, since  
21 dependent claims are patentable for at least the same reasons as the independent claims from which  
22 the dependent claims ultimately depend.

23 With regard to applicants' step (a) of independent claim 12, the Examiner asserts that  
24 when compressed with a scale factor SF1, this compression yields a data point (Rt, DS1) as  
25 in Figure 3, which represents this image, at resolution Rt, as applicants' minimum  
26 quality level, and a data size DS1, as applicants' maximally compressed file size (Office Action,  
27 page 6). However, Bryniarski '462 has defined DS1 as the compressed size of a file based on  
28 compressing a lower resolution version of the image known as Rt, where Rt has a resolution less  
29 than that of the image (Bryniarski '462, column 8, lines 8 to 24). In  
30 contrast, applicants specifically claim utilizing not only a *minimum* quality level (as opposed to a

1 lower resolution version, where although  $R_t$  is lower, it is not specifically the  
2 minimum), but also, applicants' quality level is predefined (as opposed to Bryniarski '462, where  
3  $R_t$  is the result of the selection of an initial scale factor of 3.00 – see Bryniarski '462, column 8,  
4 lines 13-14). In addition, the cited art teaches that the reduced resolution version of the image is  
5 not a specific resolution, and that the initial scale factor has been found not to be critical as long as  
6 it is reasonable (Bryniarski '462, column 10, lines 49-2). Thus, because  $R_t$  is not a specific quality  
7 level, it is not predefined in this reference, and  $R_t$  is merely initially selected in Bryniarski '462 as  
8 a starting point in order to obtain an expected size of the compressed image of the full resolution  
9 image (Bryniarski '462, column 8, lines 21-24). Accordingly, the cited reference teaches away  
10 from what applicants have claimed.

11 With regard to applicants' step (b) of independent claim 12, Bryniarski '462 thus neither  
12 teaches nor suggests identifying image files of the set that will be compressed with a predefined  
13 minimum quality level, because for the reasons noted above, a quality level is not predefined in the  
14 invention of this reference.

15 With regard to applicants' step (c) of independent claim 12, Bryniarski '462 neither teaches  
16 nor suggests that for all other image files of the set that were not identified to be compressed with the  
17 predefined minimum quality level in step (b), determining a quality level. Once again, for the  
18 reasons noted above, a quality level is not predefined in the invention of Bryniarski '462. Even  
19 assuming, *arguendo*, that Bryniarski '462 included a predefined minimum quality level,  
20 Bryniarski '462 still does not teach or suggest an equivalent of applicants' Claim 12, because the  
21 reference does not teach or suggest that there exist a set of "all other image files," as recited in  
22 applicants' step (c) and step (d). Applicants' claims clearly distinguish between identifying image  
23 files of the set that will be compressed using the predefined minimum quality level, as recited in  
24 step (b), and "all other image files" of the set that were not identified in step (b), and will not be  
25 compressed with the predefined minimum quality level. Instead applicants' claims provide that the  
26 set comprising "all other image files" will be compressed with the quality level determined in  
27 step (c).

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1 In contrast, for a single image the cited art (Bryniarski '462, column 10, line 41) discloses  
2 how once a lower resolution of the image is obtained, this reduced resolution version of the image  
3 is compressed using an initial scale factor (Bryniarski '462, column 10, lines 43-48). From this  
4 compressed image, a data point representing this single image and using the slope of the line from  
5 Figure 3, one can estimate the data size that will result from compressing not the thumbnail size,  
6 but rather, the full resolution version of the image at the same scale factor. The full resolution  
7 image is then compressed with the scale factor thus determined (Bryniarski '462, column 11,  
8 lines 5-7) to yield the "aim compressed image size." To ensure that the actual compressed image  
9 size will be within a predetermined tolerance of the aim compressed image size, an optional  
10 iteration can be performed (Bryniarski, '462, column 11, lines 18-21). Furthermore, Bryniarski  
11 '462's method as described above in connection with a single image is also used with a plurality of  
12 images (Bryniarski '462, column 11, lines 44-47). Thus, it appears that *all* of the image files in  
13 Bryniarski are compressed with the same quality level, because all image files were identified.  
14 Thus, there are no "other image files" in Bryniarski that were not identified to be compressed with  
15 a predefined minimum quality level, as stated in applicants' step (c), and no set of "other image  
16 files" is compressed in Bryniarski '462, with a quality level determined as recited in applicants'  
17 step (c).

18 The Examiner acknowledges that Bryniarski '462 does not explicitly teach that the scaling  
19 factor or weight is determined based upon a high frequency energy content. However, the Examiner  
20 notes that because Bryniarski '182 illustrates a relationship between the scaling factor and the  
21 frequency image content, as shown in FIGURES 3-4, it would have been obvious for one of ordinary  
22 skill in the art at the time the invention was made to modify the Bryniarski '462 technique by using  
23 the frequency image content for determining the scaling factor applied, as taught by Bryniarski '182,  
24 in order to compress a collection of images with a desired frequency image content (Office Action,  
25 page 8).

26 However, a scaling factor is not the same as a weight in applicants' specification and  
27 claims, and are not generally considered to be equivalent in the art. The term weight and scaling  
28 factor have different meanings, as used in applicants' specification and in the art. Specifically,  
29 there is an equation used for computing *weight* for an image file as a function of its high frequency  
30 energy ( $DCT\_hfEnergy$ ), wherein the high frequency energy is indicative of the complexity of the

1 image and is a characteristic of a particular image that is indicative of how much compression can  
2 be applied to the image without incurring an unacceptable loss of detail (see applicants'  
3 specification, page 14, lines 1-6). Thus, the term weight as applied to an image file is based on the  
4 high frequency energy of the image file. In contrast, applicants use a scaling factor that is based  
5 upon a currently available space remaining for compressed files within a predefined limit, as  
6 recited in Claim 14. Thus, in applicants' application, the term "weight" is not synonymous with the  
7 term "scaling factor," as the Examiner asserts. Furthermore, the scaling factor is not determined as  
8 a function of high frequency energy of an image file. Accordingly, since the combination of  
9 Bryniarski '182 and '462 neither teach nor suggest all of the claimed limitations of Claim 12, the  
10 rejection should be withdrawn.

11 Independent Claim 29 claims a system for automatically selecting a quality level when  
12 compressing each of a set of image files to produce compressed image files. Therefore, Claim 29 is  
13 distinguished over Bryniarski '182 and '462 for reasons similar to those discussed above in  
14 connection with the discussion traversing the rejection of Claim 12. Accordingly, the rejection of  
15 Claim 29 should also be withdrawn for the same reasons as set forth above.

16 With respect to Claim 13, the Examiner also asserts that Bryniarski '462 discloses the step of  
17 limiting the quality level that is used for compressing the image files and cites FIGURE 3 (Office  
18 Action, page 9). However, for the reasons noted above, Bryniarski '462 does not teach or suggest use  
19 of a predefined minimum quality level. And even assuming, *arguendo*, that Bryniarski '462 teaches  
20 a predefined minimum quality level, it is not apparent from FIGURE 3 that there is a substantially  
21 higher predefined maximum quality level, especially when Bryniarski '462 teaches that Rf on  
22 FIGURE 3 is an expected size (Bryniarski '462, column 8, lines 25), and that these data are used to  
23 determine an aim compressed image size (Bryniarski '462, column 8, lines 29-30). Thus, it is  
24 apparent that Rf is not a predefined maximum quality level. Accordingly, Claim 13 also  
25 distinguishes over the cited art.

26 Because dependent claims inherently include all of the elements of the independent claims  
27 from which the dependent claims ultimately depend, the rejection of dependent Claims 13 and 15-18  
28 and Claims 30 and 32-34 under 35 U.S.C. § 103(a) over Bryniarski '462 in view of Bryniarski '182  
29 should also be withdrawn for at least the same reasons as the rejection of Claims 12 and 29,  
30 respectively.

1 Allowable Subject Matter

2 The Examiner states that Claims 14 and 31 would be allowable if rewritten in independent  
3 form, including all of the limitations of the base claim and any intervening claims. However, at this  
4 time, applicants elect not to rewrite these dependent claims in independent form, since for the reasons  
5 noted above, Claims 12 and 29 are patentable, and these dependent claims are thus also patentable.

6 In view of the amendments and Remarks set forth above, it will be apparent that all claims in  
7 this application define a novel and non-obvious invention, and that the application is in condition for  
8 allowance and should be passed to issue without further delay. Should any further questions remain,  
9 the Examiner is invited to telephone applicants' attorney at the number listed below.

10 Respectfully submitted,

11 

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14 RMA/SKM:lrg

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16 sealed envelope as first class mail with postage thereon fully prepaid addressed to: Commissioner for  
17 Patents, Alexandria, VA 22313-1450, on December 30, 2004.

18 Date: December 30, 2004

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